BOSCH
Invented for life

Social Alarm ManDown Sensor

- **Easy to use and to trigger**
- **Automatic trigger via position sensor**
- **Mercury-free components**
- **Battery monitoring**
- **Acoustical pre-alarm**

The ManDown Sensor has a built-in tilt device, which can detect if the person holding it is in a horizontal position, such as lying on the floor. The sensor will automatically send an alarm when its position corresponds to horizontality after a certain time. Pressing its central red button will activate a help call at any time.

The ManDown Sensor can be held, for example, as a necklace by an elderly person or as a safety device by a lone worker in a hazardous environment.

The ManDown Sensor will be part of a social alarm system. It can be associated with a Carephone receiver and linked to a social alarm call center through the telephone line.

Functions

Compatibility

The different types of ManDown Sensors should always be associated with a corresponding social alarm system, according to the following table.

ManDown 869 MHz, Bosch RF protocol	Carephones 3050, 3100, 50, 52, 52+
ManDown 869 MHz, TeleAlarm protocol	Carephones 10, 12

Detection

Detection by the ManDown Sensor can be decomposed into two periods of time.

1) Tilt Detection

When the sensor detects a tilt of more than 60 degrees, it will start its internal chronometer for approximately ten seconds. If the sensor comes back to a vertical position within these ten seconds, the chronometer is reset.

2) Pre-Alarm

If the sensor does not come back to a vertical position within ten seconds, a pre-alarm starts, accompanied by a beeping sound. This period of time is factory-set and lasts approximately thirty seconds. The pre-alarm is cancelled if the sensor comes back to a vertical position or if the help call button is pressed.

Help call button

Pressing the central red button of the ManDown Sensor will activate a help call at any time. During all help calls made by pressing the button, the sensor will always issue a beeping sound.

Optical indication by a LED indicator

The ManDown Sensor can be delivered with an operational frequency of 869 MHz. It is equipped with a LED indicator that will flash every ten seconds to show that the sensor is active. This LED indicator will flash green if the battery is ok or red if the battery is low. Pushing the central red button will send a help call to the social alarm system, followed by a short beeping sound.

Pre-alarm and help call button deactivation

You can delete the pre-alarm or deactivate the central red button as help call button. In this case, during the automatic tilt alarm, the sensor remains silent.

Deactivation of the ManDown Sensor

You can turn off the sensor, even when the help call button is deactivated. In this case, a help call will be sent only after pressing the help call button for less than five seconds and releasing it.

Certifications and Approvals

CE

R&TTE 1999/5/EC
LVD 2006/95/EC
EMC 89/336/EEC

EN 50130-4 A2
EN 300220-2
EN 301489-3 V1.4.1
EN 60950-1

Installation/Configuration Notes

Programming

To program a ManDown Sensor with a Carephone (e.g. Carephones 10, 12, 3050, 3100, 50, 52, 52+), follow the procedure described for the system you are using. As the ManDown Sensor can be considered as a standard transmitter, the system will recognize it during the programming step. Please refer to the manual of the corresponding social alarm unit.

Parts Included

Quant.	Component
1	ManDown Sensor

Technical Specifications

Dimensions (H x W x D)	75mm x 40mm x 23mm
Weight	43 g
Frequency	869.2125 MHz
Tilt sensor	Mercury-free type with activating at a 60° angle with vertical
Pre-alarm	10 seconds of detection, followed by 30 seconds of signal before automatic activation.
Type of plastic	ABS Cycolac GPM5500S white 25020 with fire classification UL 94 HB
Power supply	3V lithium battery CR1/2AA
Consumption	Stand-by mode: < 13 µA When deactivated : < 5 µA
Battery lifetime	from six months to two years, depending on operation and the number of detections performed
Battery alarm	at approx. 20 % remaining
Automatic battery test	daily check and at every alarm
Permissible temperature	5 °C to 35 °C
Stability	< ± 2.5 kHz
Modulation	FSK
Antenna	Integrated loop
Radiated power	2 mW
Transmission time	Bosch protocol: 1 x 700 ms TeleAlarm protocol: 3 x 700 ms
Pauses between transmissions	TeleAlarm protocol: 800 ms
Short term storage (less than two weeks)	Deactivate the sensor.
Long term storage (more than two weeks)	Remove the battery and store the ManDown Sensor protected from direct sunlight, moisture and dust.

Ordering Information

ManDown Sensor With TeleAlarm protocol	**CRS-RM-435FM**
ManDown Sensor With Bosch protocol	**CRS-MADO-869B**

Americas:
Bosch Security Systems, Inc.
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
security.sales@us.bosch.com
www.boschsecurity.us

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
Fax: +31 40 2577 330
emea.securitysystems@bosch.com
www.boschsecurity.com

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2600
Fax: +65 6571 2698
apr.securitysystems@bosch.com
www.boschsecurity.com

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